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Chief, Tokyo Bureau

5 July 1948

Chief Engineer, FBIS

Technical questions brought up in your 30 June 1948 letter to Chief, FBIS.

1. It is unfortunate that [redacted] didn't have a chance to work with the new Dictaphone equipment before he went to Tokyo. Kawai didn't receive their equipment before he left—and that was the only place he could have gotten such experience without making a trip to the United States. In this regard, we will try to arrange [redacted] schedule on his trip to Okinawa so that he can stop over for a few days in Tokyo to help [redacted] out. [redacted] has been assigned the job of building the Okinawa station under [redacted] overall command, and probably will be going through Tokyo in late September. 25X1

2. We recommend that the five Dictaphone Model A-2M recorders not be altered either with respect to motor speed or with respect to removal of amplifier from bottom of recorder cabinet. The reasons for this recommendation are given herewith. The recorder speed normally should be constant so that the transcribing speed will fall into the range of the transcriber speed variation. The speed adjustment problem becomes too inconvenient unless the recorder speed is left constant. Also, you will be receiving five transcribers which will have speed, tone and volume control as well as foot control for start-and-stop and for back spacing. The speed control on the transcribers will fill your requirements. Accidental variation of the speed control rheostat you might install on the recorders would possibly throw the speed of recording out of range of your transcribers—when the transcribers are received. Also, the motors on this equipment are of a synchronous type—a type which does not respond to control with a rheostat very well. It is this synchronous feature which gives you the 17 percent speed variation between 50 and 60 cycle operation. The motors are designed for a speed to give 15 minute belt time on 60 cycle power. The same discussion applies to the transcribers, but the transcribers will handle the 17 percent speed variation in either direction from normal recording speed by changes in their motor design. 25X1

3. The amplifier on the recorders is really two amplifiers—one for recording and one for monitoring. It is an audio compression amplifier. This means that if the volume level of input and output is properly adjusted with the controls provided, the amplifier will tend to automatically level off volume levels to any desired average maximum output level. The input level should be adjusted so that the input stages of the amplifier do not block or distort on peak input levels. Then the output level is adjusted to give proper recording level from the output of the amplifier. The higher the input signal level arriving through the input level control to the input tube grid, for a given output level setting, the greater will be the compression control, i.e., the greater will be the allowable range of variations at the receiver with no need of making recording level adjustments. If these level settings are properly made, the monitor does not have to touch the amplifier controls. Actually, the machine is designed to make level adjustments during recording unnecessary. If necessary, further adjustments of input level should be made at the receiver not at the recorder. 25X1

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4. [ ] will note that motors of the recorders run whenever the amplifier is turned on. We will send you a diagram of wiring changes to be made to eliminate this unnecessary wear on motors, belts, etc. There are other changes which we have found necessary for better operation—information on these will also be sent to you. 25X1

5. Now as a guide as to why your recordings vary in quality, let us say first that monitors should never make adjustments on the amplifier controls. The inter-relationships between the various controls is too hard for them to understand. [ ] should set these controls as per instructions above and monitors should be instructed to make any necessary level changes at the receiver. We have a strong suspicion that this subject might lead to the elimination of most of your difficulties. A further reason why quality of recordings may vary greatly from the same machine is that one of the two recorder styli may be chipped. This may easily be determined by inspection with a magnifying glass—or by correlating closely poor recordings made on the same recording head. 25X1

6. An assortment of maintenance and replacement parts will be shipped you soon. The five transcrubers for your office are leaving soon by parcel post. Please feel free to call on us as often as necessary where we may be of help to you.

FOR THE CHIEF, FBIS,

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